

## The Computer as a Structuring Device in Video Dance

The translation of dance to the video screen has always been problematic because of the diminishment of the third dimension and the loss of the tactile nature of the dance performance on the proscenium stage. Camera angles, lighting, and traditional editing techniques can interfere or enhance the choreographer's intent of the dance piece. The computer and video image processing tools proceed to further remove the dance from its physical three dimensional space. The computer not only graphically manipulates the space within a two dimensional plane but the computer also reconstructs the temporal elements of the dance by the sampling of live images and the mixing of those images with previous stored images that are stored on back buffers<sup>1</sup>. The computer also has the ability to sequence images from the buffers in a mathematical and random ordering that would be quite difficult to achieve in traditional video editing techniques.

Using an Amiga computer and a video frame buffer designed by David Jones of the Experimental Television Center in Owego, New York. I have constructed three dance video pieces in collaboration with video artist, Connie Coleman and dancer, Lesley Powell. These three pieces were constructed over a three year period beginning in 1987. The Jones's frame buffer and analog image processing system were constructed over a three year period by David Jones, Connie Coleman, and me. Both David Jones and I have written the software. Jones's software allows the user to sequential load any of the frame buffer's sixteen storage locations. The buffer then can be played in a forward or reverse motion using the Amiga's mouse as the controller. My software uses the "INKEY" command of compiled Basic to allow the user to enter very exact information about colormaps<sup>2</sup>, the size, duration, and direction of playback loops off the buffers. All the commands in my software are entered via the keyboard.

Descriptions of the three pieces are as follows:

1. "Girl on a Swing" was created in 1987. It represents Coleman and Powell's first use of their Jones's buffer and the Amiga as a processing device with a dancer. The dancer was surrounded by 20 inch Black and White monitors so that we can see the live camera or the output of the buffer at any given moment. Coleman was on the camera, but she too was watching the out monitors to see if her camera was active or whether the buffer is in a read mode. Powell is

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<sup>1</sup> The buffer is an area of computer memory that is allocated specifically for image storage. This makes for an efficient method addressing images and their manipulation.

<sup>2</sup> Colormaps are strings of data that address the Red, Green, Blue (RGB) values of each level of gray of the digitized image. Colormaps give a computer image a highly graphic look.

on the Amiga using Jone's program. Powell is using the mouse to turn on and off the Play/Record mode of the buffer and to reverse, pause, forward the sequence of the buffer from one image to another. "Girl on a Swing" contains only four video edits. The process was such that the crew would repeat a song and an improvised dance until an acceptable take was made. Post-production editing was used to formalize the opening and close and to remove a part of the sequence where the buffer cleared itself to black. The music was composed by Mike Nolan.

2. "Bunk's Blues" was completed in 1990. It uses a similar working method as "Girl on a Swing" in that the dancer was surrounded by monitors so that she can reference her movements against the output of the frame buffer. Two additional parameters are added to the process. The first was a colormap program by Powell that reduces the video image to that of outlines of black on a white field. This gives the resultant image a highly graphic quality resembling a drawing. The other parameter was the introduction of an analog keyer that keys out or removes the darker areas of the original digitized image revealing previously stored images on the back buffers. At times the dancer's movements were repeated in delay behind the live image. This adds a fluidity to the choreography. "Bunk's Blues" was recorded in a studio environment against a pre-recorded musical track by the group Beausoleil. The piece was reprocessed using a live recording and Coleman's camera originals from the studio shoot.

3. "Da.Da Dance" was constructed from both live footage of a performance by Beausoleil and using pre-recorded work tapes. The images were mixed using three live video cameras, Jone's frame buffer, a "LIVE" video digitizer for the which mainly provides a colormap sequence, and twelve worktapes of Lesley Powell dancing through the Jone's frame buffer. The tape was designed to be a crazy mix of "high tech" and "down home" video images processed during a live dance performance. Some of the images of the dancers were shot off small B&W monitors to reduce the scale and break the perceived camera space. The piece extends the notion of video dance into a graphic space devoid of any choreographic rooting in traditional dance.

The computer continues to extend the possibilities of video dance. The process removes dance from its tactile experience in exchange for a highly graphic form. The video maker can be both an animator and a choreographer with greater control over both the graphic and temporal structure of the dance.

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